

Work Order ID 164412

Wednesday, July 19, 2017 10:29:02 AM

164412

Page 1

Item ID: D3672-1 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Washer, Phenolic
Start Date: 7/19/2017 Start Qty: 500.00 ***500*** Cust Item ID:
Required Date: 7/28/2017 Req'd Qty: 500.00 ***500*** Customer:
Reference:

Approvals: Process Plan: 21 Date: JUL 19 2017 Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
D3672	D

100	PURCHASING	0.00				500	JUL 20 2017	DAS 13 9-89
100								
Purchasing	Memo	0.00						
Purchasing	Issue P/O: <u>37155</u>							
	Purchase Part Number: MM .437 OD X .210 ID X .031 +/- .002							
	Supplier: HASKINS INDUSTRIAL							
	Certificate of conformity is required							

110	Receive & Inspect for Damage & Mat'l Certs	0.00						
110								
Packaging	Memo	10.00						
Packaging	Ensure certificate of conformity is attached							

120	QC6- All purchased or subcontracted products	0.00						
120								
QC	Memo	0.00						
Quality Control								

500 x SP17-7-27

500 JUL 28 2017

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

Work Order ID 164412

Wednesday, July 19, 2017 10:29:02 AM

164412

Page 2

Item ID: D3672-1

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Washer, Phenolic

Start Date: 7/19/2017 Start Qty: 500.00

500

Cust Item ID:

Required Date: 7/28/2017 Req'd Qty: 500.00

500

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	Identify as per dwg & Stock Location: _____	0.00							
130									
Packaging		5.00							
Packaging	Memo LOCATION : FP001								
140	QC21- Final Inspection - Work Order Release	0.00							
140									
QC		50.00							
Quality Control	Memo								

500 9-89 JUL 31 2017

17/8/2

AUG 01 2017

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐			
Design ☐	☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐			
Doc/Data ☐	☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐			
Equip/Tooling ☐	☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐			
Handling/Pre ☐	☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐			
Material ☐	☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐			
Internal Transport ☐	☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐			
Tribal Knowledge ☐	☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐			
LOA ☐	☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐			
Substation ☐	☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐			
Past Expiry Date ☐	☐	Manufacturing Process ☐	OTHER : _____						
Misidentified ☐	☐	Past Due ☐							

Picklist Print

Wednesday, July 19, 2017 10:29:05 AM

Page 1

Work Order ID: 164412

164412

Parent Item: D3672-1

D3672-1

Parent Item Name: Washer, Phenolic

Start Date: 7/19/2017

Required Date: 7/28/2017

Start Qty: 500.00

Required Qty: 500.00

Comments: IPP Rev:A New Issue 07-09-09 JLM Verified By:EC
IPP Rev:B ECN 1056 07-11-13 DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D3672-1P		Purchased	No			110	Each	0.0000	1	500			
D3672-1P									**				
Washer													

500X. SP 17-7-27

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

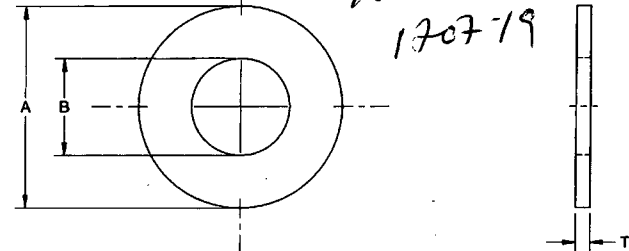
Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY			
Environment ☐	☐	No Re-verification ☐		Pressure/Forced ☐	☐	Temperature/Cure ☐	☐
Design ☐	☐	Operator ☐		Bending ☐	☐	Set-up ☐	☐
Doc/Data ☐	☐	Offset/Setup ☐		Centre Not Concentric ☐	☐	BOM/Route ☐	☐
Equip/Tooling ☐	☐	Supplier ☐		Cracks ☐	☐	Broken/Damage/Defect ☐	☐
Handling/Pre ☐	☐	Training ☐		Crimp/Kink/Ripple/Wave ☐	☐	Inspection Incomplete/Unqualified ☐	☐
Material ☐	☐	Use for Testing ☐		Cuffs ☐	☐	Contamination ☐	☐
Internal Transport ☐	☐	Poor Information ☐		Crushing ☐	☐	Countersink ☐	☐
Tribal Knowledge ☐	☐	Rushing ☐		Heat Treat ☐	☐	Cut Too Short ☐	☐
LOA ☐	☐	Product Improvement ☐		Wave/Twist in Tube ☐	☐	Instructions Incomplete/Unclear ☐	☐
Substation ☐	☐	Process Improvement ☐		Marks/Chatter ☐	☐	Drill Holes ☐	☐
Past Expiry Date ☐	☐	Manufacturing Process ☐		OTHER : ☐			
Misidentified ☐	☐	Past Due ☐					

SPECIFICATION CONTROL DRAWING

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER

NO. *104412 MLS*
1707-19



D3672-X PHENOLIC WASHER

DART P/N	A (IN)	B (IN)	T (IN)	SUPPLIER P/N	REPLACES
D3672-1	0.437	0.210	0.031	MM.437OD X .210ID X .031 +/- .002 PHENOLIC FLAT WASHER	NAS1515H3L
D3672-3	0.500	0.267	0.031	MM.500OD X .267ID X .031 +/- .002 PHENOLIC FLAT WASHER	NAS1515H4L
D3672-5	0.562	0.326	0.063	MM.562OD X .326ID X .062 +/- .002 PHENOLIC FLAT WASHER	NAS1515H5
D3672-7	0.562	0.328	0.031	MM.562OD X .328ID X .031 +/- .002 PHENOLIC FLAT WASHER	NAS1515H5L
D3672-9	0.625	0.390	0.031	MM.625OD X .390ID X .031 +/- .002 PHENOLIC FLAT WASHER	NAS1515H6L
D3672-11	0.750	0.453	0.031	MM.750OD X .453ID X .031 +/- .002 PHENOLIC FLAT WASHER	NAS1515H7L
D3672-13	0.875	0.515	0.031	MM.875OD X .515ID X .031 +/- .002 PHENOLIC FLAT WASHER	NAS1515H8L
D3672-15	0.437	0.210	0.063	MM.437OD X .210ID X .063 +/- .002 PHENOLIC FLAT WASHER	NAS1515H3
D3672-17	0.500	0.267	0.063	MM.500OD X .267ID X .063 +/- .002 PHENOLIC FLAT WASHER	NAS1515H4
D3672-19	0.875	0.515	0.063	MM.875OD X .515ID X .063 +/- .002 PHENOLIC FLAT WASHER	NAS1515H8

7D

RELEASED

2016 JUN 22
ECN 16-661

- NOTES:
- 1) MATERIAL: PHENOLIC. PURCHASE HASKINS INDUSTRIAL INC. P/N PER TABLE (IN QUANTITIES OF 1000)
 - 2) FINISH: NONE
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: NONE
 - 7) WEIGHT: LESS THAN 0.01 lbs

D	ADD -15/-17/-18	MB	16.05.26
C	REDRAW, ADD -13 (ZN A8-1), PAR 09-038	CP	09.11.04
B	ADD -5/-7/-9/-11	DC	07.10.09
A	NEW ISSUE	DC	07.08.28
REV.	DESCRIPTION	BY	DATE
DESIGN	ML	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	MB		
CHECKED	AJS	DRAWING NO.	REV. D
MFG. APPR.	DD	D3672	SHEET 1 OF 1
APPROVED	WM	TITLE	SCALE
DE APPR.	D3	PHENOLIC WASHER	NTS
DATE	16.05.26	COPYRIGHT © 2007 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

APPROVED

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐																						
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Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐																						
Large Fab ☐	Composite ☐	Supplier ☐																							
Date :		Step #:		QTY Effective :			MRB (QS1042) Approval																		
Description Work Order Deviation				Disposition				Completed By																	
								Lead hand / Supervisor Approval Verification																	
										QC / QA Coordinator Approval															
Root Cause		FAULT CATEGORY																							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐	OTHER : ☐																			



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO37155

Purchase Order Date 7/20/2017

PO Print Date 7/20/2017

Page Number 1 of 2

Order From :

HASKINS INDUSTRIAL
5-52 ANTARES DRIVE
NEPEAN, ON K2E 7Z1
CA

VC-HAS001

Ship To : DART AEROSPACE LTD

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

EMMAILED
JUL 20 2017

Contact Name

Vendor Phone 613 723 8800

Ship To Contact

Ship To Phone

Ship Via: Dicom

Ship Acct:

Buyer

Chantal Lavoie

Customer POID

Customer Tax #

10127-2607

Terms

Net 30

Currency

CAD

FOB

FCA - (Free Carrier)

Line Nbr	Reference Vendor Part Number	Description/ Mfg ID	Req Date/ Taxable	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
	Line Comments		Promise Date				
	Delivery Comments						
1	D3672-1P	Washer	7/26/2017		500.00 Each	\$0.34	\$170.65
			Yes				
			7/26/2017				
	AS PER DWG D3672 REV. D B16412						
							68-6 38 DAS
							50A-7-27
						Line Total:	\$170.65
2	71500-30	SFRHEC1003225 KC625M 1" RGH E-MILL	7/26/2017		2.00 Each	\$328.29	\$656.58
			Yes				
			7/26/2017				
							5017-7-24
						Line Total:	\$656.58

Deliver To: CNC

PO Instructions: PROCUREMENT QUALITY CLAUSES A000 CLAUSES NOT REQUIRED

Note:

7/20/2017

HASKINS INDUSTRIAL INC.
5-52 ANTARES DRIVE

*** B A C K O R D E R ***

Order # 1266450.01

NEPEAN, ONTARIO K2E 7Z1
TEL (613)723-8800 FAX (613)723-8806

Order Date 07/20/17

Page 1 of 1

Sold To: DART AEROSPACE LTD.
1270 ABERDEEN STREET
HAWKESBURY
ON
K6A 1K7

Ship To: DART AEROSPACE LTD.
1270 ABERDEEN STREET
HAWKESBURY
ON
K6A 1K7

Cust Phone #	Warehouse OTTAWA	F.O.B. DEST	Taken By Sylvie 613-723-880
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Cust #	Customer	P/O #	Required	Orig Order	Slsm	Ship Via	Terms
05168	37155		07/21/17	1266450.01	PL	DICOM	NET 30

Ln#	Bin #	Order UM	Ship	B/O	Product	Description
2	CAB810	500 EA	500	✓	MMS-D3672-1	✓.437 X .210 X .031 +/- .005 WASHER, PHENO

5077-27

PLEASE NOTE:

1. NO RETURNS WITHOUT PRIOR AUTHORIZATION
 2. ALL SHORTAGE CLAIMS MUST BE WITHIN 10 DAYS
 3. BO CODE: BO = QTY NOT SHIPPED IS BACK-ORDERED
- CL= QTY NOT SHIPPED WAS CANCELLED
SC= ITEM CONSIDERED COMPLETE - NO B/O CREATED

68-6
8C
SVC

FILL  PACK  DATE 07/25/17
Printed on 2017-07-25 at 10:02